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# Six-year Follow-up on Volunteering in Later Life: A Cohort Comparison in the Netherlands

Marjolein Broese van Groenou and Theo van Tilburg

Given population aging and the productive potential of older people, it is important to examine how individual and societal developments affect social engagement in later life. The study aimed to disentangle the effects of age, aging, and cohort on volunteering among the young old. Using data from the Longitudinal Aging Study Amsterdam, we examined volunteering rates of young olds ( $N=2,745$ ) in two decades: those being 55–69 years old in 1992 and their age-peers in 2002. Six-year follow-up on both cohorts allowed for cohort-sequential analyses. Multilevel logistic regression analyses revealed that (i) regardless of age, the 2002 cohort volunteered more often than the 1992 cohort, (ii) in 6 years' time volunteering increased for the 55- to 59-year-olds, stabilized among the 60- to 64-year-olds, and declined among the 65- to 69-year-olds, and (iii) these age-differential changes were observed in both cohorts. These effects remained significant after adjusting for gender, education, religious involvement, health, employment status, network size, and partner status. A higher education, religious involvement, staying in good health, and maintaining a large network increased the likelihood of volunteering. Unobserved factors, such as a more positive view on aging within society, may also account for the large increase in volunteering among the recent cohort of young olds.

## Introduction

For both individual and society it is important that people remain socially engaged in later life. Social engagement improves individual wellbeing (Van Willigen, 2000) and survival (Maier and Klumb, 2005), and society benefits from older people spending their time on volunteering and other types of socially engaged activities. Empirical evidence supports the social engagement of the 'young old'. After retirement, many people view volunteering as an option to remain useful for and attached to society (Kaskie *et al.*, 2008).

In many European countries the proportion of volunteers among older adults is relatively high in early late life (between 55 and 70 years of age), but lower after the age of 75 years (Erlinghagen and Hank, 2006). Longitudinal studies support that volunteering in general declines with age (Verbrugge *et al.*, 1996, Hank and Erlinghagen, 2009), although some older adults remain involved in socially productive activities until a very high age (Bukov *et al.*, 2002; Holahan and Chapman 2002). Most studies explain age differences in volunteering by differences in age-related resources such as health, marital status, and retirement

(e.g. Butricia *et al.*, 2009; Hank and Erlinghagen, 2009). In this perspective, individual changes in, for example, health, employment, or marital status trigger changes in levels of volunteering.

Another line of research examines age differences in volunteering from a macro-perspective, looking at characteristics of a specific birth cohort. In general it is stated that specific social and cultural resources, such as the level of education or the degree of 'civiness', makes a birth cohort more eligible for volunteering (Putnam, 2000; Rotolo and Wilson, 2004; Ajrouch *et al.*, 2007; Einolf, 2009). Cohort studies of persons in mid life showed that younger generations volunteer more often around the age of 50 than their age-peers in older generations (Rotolo and Wilson, 2004; Einolf, 2009). Part of the differences was attributed to the higher educational level of the younger generation. Einolf (2009) suggests that unexplained differences may be due to cultural differences as a changing view on social engagement of the young old after retirement. In addition, structural societal characteristics, such as economic prosperity and labour market regulations, affect the opportunities for older people to volunteer. These structural differences may affect different birth cohorts to the same degree. Both cultural and structural differences in cohorts thus may explain why older age groups volunteer less often than younger age groups.

What we do not know yet, is to what degree changes in volunteering in the individual life course (the aging effect on volunteering) differ between cohorts. Is the same curvilinear pattern of volunteering in later life (increase in young old, decrease at older age) apparent in different cohorts? If so, this suggests that the impact of individual aging on volunteering is more important than the larger societal context. Still, if younger cohorts live in cultural and structural circumstances that facilitate volunteering to a larger extent, it can be expected that these younger cohorts will continue to volunteer for more years than their age-peers in earlier cohorts. Few studies have followed cohorts of older adults for a significant period of time. Among them, Pohjolainen (1991) reported that organization activity declined with age and was higher in younger cohorts, but he did not report about aging effects within cohorts, probably due to very small sample sizes. Still, such cohort-sequential analyses are needed to disentangle the effects of age, aging and cohort on the volunteering rates of the young old.

In the present study we will analyse data of the Longitudinal Aging Study Amsterdam to provide information on a 6-year follow-up on volunteering of 55- to 69-year-olds in the 1990s and in the 2000s.

The Dutch present an interesting case as the young old show, with the Swedes and the Danish, the highest volunteering rates of Europe (Erlinghagen and Hank, 2006) and maintain more involved in volunteering over time compared to other European countries (Hank and Erlinghagen, 2009). In part this high volunteering rate reflects the large support of the national government for voluntary organisations and the high level of social trust within society (Pichler and Wallace, 2007). Results from our study will be of particular interest to countries with comparable welfare regimes, such as the Northern European countries, and in general to all nations that aim to increase the societal participation of the young old.

We focus on the young old, aged between 55 and 69 years, in order to study the period in the life course characterized by retirement and the empty nest. Changing views on social engagement after retirement may be in particular reflected in this age group. In addition, we will examine to what degree age and cohort-related changes are to be explained by well-known determinants of volunteering: educational level, health, marital status, employment status, involvement in religious and personal networks (Wilson and Musick, 1997; Wilson, 2000; Choi, 2003; Broese van Groenou and Deeg, 2010). Some of these determinants change with aging (e.g. health), others reflect cohort differences (e.g. younger cohorts are higher educated) or recent societal changes (e.g. younger cohorts are more often employed). Hypotheses regarding age, aging, and cohort differences are elaborated on below.

## Theory and Hypotheses

### Volunteering in the life course

Many studies focused on developments of social engagement over the life span. Both cross-sectional studies on age-differences and longitudinal studies among aging individuals show that the proportion of people engaged in social productive behaviour is stable during the middle years, increases in early old age, and decreases after the age of 75 years (Verbrugge *et al.*, 1995; Erlinghagen and Hank, 2006; Cornwell *et al.*, 2008). The most important predictor of volunteering in early old age is whether one already volunteered in midlife (Butricia *et al.*, 2009). The longer and more intensive one volunteered, the more likely that this behaviour is continued until later life. Reasons to start with or to quit from volunteering in later life reflect changes in the individual determinants of volunteering. Life events, such as retirement, widowhood, health

problems and start of spousal care affect individual resources, social opportunity structure, and motivational factors, possibly resulting in a change in volunteering. Recent studies showed that retirement is associated with increased volunteering in later life (Butricia *et al.*, 2009; Kaskie *et al.*, 2008, Hank and Erlinghagen 2009). Although others have argued that the relative impact of retirement is rather small compared to pre-retirement volunteering experience (Mutchler *et al.*, 2003), it can be stated that entering retirement increases the time and the motivation to pursue meaningful social activities. The impact of marital status on volunteering is mixed and seems to differ by gender and by life course stage (Wilson, 2000). During midlife, married people are more likely to volunteer than singles, but in later life widowed women were more likely to volunteer than married women (Li, 2007). The large impact of health decline on volunteering (Bukov *et al.*, 2002; Butricia *et al.*, 2009; Hank and Erlinghagen, 2009) also shows that decline of volunteering in later life is associated with changes in individual resources. Finally, these types of life events may contribute directly or indirectly to a decline in network size, which is an important social venue for the recruitment of volunteers (Gray, 2009). Having a large and diverse social network increases the likelihood that one encounters volunteers or that one is asked to engage in volunteer activities. With a decreasing network size in later life, the likelihood to volunteer will also decrease.

This individual-based perspective explains why volunteering increases in early old age—most likely due to retirement and less time constraints—and declines at later ages when health problems, becoming widowed or losing network members are more likely to occur. In our study we want to illustrate this curvilinear effect by comparing 6-year changes in volunteering in three different age groups (55–59, 60–64, 65–69). It is hypothesized that the youngest age group increases volunteering over a period of 6 years, whereas the older age groups are more likely to decrease their volunteering rates (H1a), and that these changes are in part due to developments in health, employment status, network size, and marital status (H1b).

### Cohort differences in volunteering

Historic demographic and cultural societal changes have led to recent cohorts of young olds with larger personal resources and a stronger orientation towards volunteering compared to their predecessors. We consider three types of societal changes that may facilitate volunteering. The first concerns the expanded

educational opportunities in the midst of the twentieth century, leading to a higher educational level among younger generations of the young old (Rotolo and Wilson, 2004). A second major societal change concerns individualization of society. This type of development is less easy to grasp and quantify but is in general indicated by decreasing family sizes, and an increasing importance of friendship over kin relationship (Allan, 2001). This contributed to the fact that older people have extended personal relationships outside the family and are more involved in personal networks than a decade ago (Van Tilburg and Thomése, 2010). A third type of societal change concerns increased employment in later life. The generous retirement regulations in the eighties and nineties of the previous century led to early retirement for many people in their late 50s and early 60s. Over the years these regulations have become much more restricted and in the early years of 2000, employment rates of older adults increased significantly. Women's emancipation led to rising labour market participation of women in the nineties and increased the number of employed women reaching old age. As volunteering is in general larger among the higher educated, the employed and those with large social networks (Wilson, 2000), the increased societal opportunities for education, employment and the personal network may all positively affect volunteering rates of the younger cohort.

Other societal developments, however, may have restricted the opportunities for volunteering. Secularization of society has contributed to a decrease in the membership of religious organizations (Rotolo and Wilson, 2004), in general a very strong predictor of volunteering. Studies on secularization in the Netherlands show that most of the people who leave church do so in early stage of life, and never return to a religious denomination later on (Need and De Graaf, 1996). Religious involvement will thus be larger in older cohorts than among the young old. A second societal development with possible restrictive effects on volunteering concerns the large increase in divorcees. Divorce law enforced in the seventies made it easier to leave a marriage and increased divorced rates considerably. Many of those divorcees stayed single until late in life, resulting in an increasing number of single older adults in recent cohorts (Tomassini *et al.*, 2004). Thirdly, technological developments and improved medical knowledge have contributed to better diagnoses and treatment of chronic diseases. In part this led to increased life expectancy but also to more years in disability (Crimmins, 2004), leading to recent generations of older people reporting more health problems than previous generations (Ahacic *et al.*,

2005). As religious involvement, being married and being in good health are positively associated with volunteering (Wilson, 2000), a decrease in the number of religious, married and healthy persons in recent cohorts of older people could lead to lower levels of volunteering among recent cohorts. It is likely that some of the changed features of the younger cohorts counterbalance others, resulting in a suppressed level of volunteering among the recent cohorts (Broese van Groenou and Deeg, 2010).

It is hypothesized that persons in the recent cohort (2002) volunteer more often compared to their age-peers in the early cohort (1992) (H2a), and that these differences are in part explained by the cohort differences in education, network size, employment, health, religious involvement, and marital status (H2b).

## Aging effects in cohorts

Some of the determinants of volunteering change with aging, such as health, network size, employment and marital status, whereas others do not, such as educational level and religious involvement. As cohorts may differ in those dynamic determinants, it is possible that aging effects may also differ between cohorts. For example, due to restricted pension benefits, the recent cohort will retire at a higher age than the early cohort. As employment may constrain the time available for volunteering, the expected increase in volunteering in the youngest age groups (55–65) may be less steep in the recent cohort compared to the early cohort. Another example concerns the delay of widowhood in later life due to increased life expectancy of older people. As more people remain married until higher age and marriage positively affects volunteering, this may result in a slower decline in volunteering with age, in particular in the years after age 65. In short, the timing of retirement, widowhood, health decline and network losses may occur at a later age in the more recent cohort. This implies that aging effects on volunteering may be less strong or postponed in the recent cohort compared to the late cohort (H3a), which is in part due to cohort differences in changes in employment, network size, health, and marital status (H3b).

## Methods

### Respondents

Data were derived from the Longitudinal Aging Study Amsterdam (LASA), an ongoing longitudinal,

multidisciplinary research program focusing on a wide range of topics related to the physical and cognitive health, and social and psychological functioning of the aging population (Deeg *et al.*, 2002). The oldest participants, particularly the oldest men, were over-represented in the sample. A stratified random sample was taken from the population registers of 11 municipalities varying in religion and urbanization. Within the sex and birth year strata, the sample was representative of the Dutch older population. The current study pertains to the following seven observations. In 1992–1993 baseline interviews were held with 3,107 respondents born in 1908–1937 (cooperation rate 62 per cent). Further follow-ups were carried out in 1995–1996 ( $N=2,545$ ), 1998–1999 ( $N=2,076$ ), 2001–2002 ( $N=1,691$ ), 2005–2006 ( $N=1,047$ ) and 2008–2009 ( $N=835$ ). In 2002–2003 LASA sampled a new cohort (birth years 1938–1947,  $N=1,002$ ) from the same sampling frame as the earlier cohort, with a cooperation rate of 62 per cent. A follow-up was carried out in 2005–2006 ( $N=861$ ) and in 2008–2009 ( $N=766$ ).

For each follow-up on average 82 per cent of the respondents was re-interviewed, 11 per cent had died, 2 per cent was too ill or cognitively impaired to be interviewed, 5 per cent refused to be re-interviewed, and <1 per cent could not be contacted due to a residential relocation to another country or to an unknown, sometimes temporary, destination. For each observation, the interviewers received a 4-day training and were intensively supervised. The interviews were tape-recorded to monitor and enhance the quality of the data obtained. The interviews took 1.5–2 h.

Data on volunteering were available for 84 per cent of the respondents across the observations. Reasons for missing data were premature termination of an interview or item non-response (8 per cent) and conducting an abridged version of the questionnaire at a specific observation or a telephone interview with the respondent or a proxy (8 per cent) for respondents who were too physically or cognitively frail to be interviewed with the full questionnaire. We selected respondents between 55 and 69 years of age ( $N=1,357$ ) in 1992–1993, and respondents of the same ages in 2001–2003 ( $N=1,388$ ); we refer to these two categories of respondents as the 1992 and 2002 cohort, respectively. There were 379 respondents both within the 1992 and the 2002 cohort. On average there were 2.5 observations for each respondent available (range 1–3). The pooled data set included 6,986 observations.

## Measurements

The dependent variable in the study is *volunteering* in community organizations. At first, respondents were asked whether they were involved in one or more of twelve community organizations (e.g. the union, a political party, a sports organization, a choir). Upon an affirmative answer, two general questions were asked about whether respondents were active in executive boards (no, yes) and/or provided assistance with various activities (no, yes) in either one of those community organizations. A positive answer on either one or both of these questions was recorded as volunteering (0 = no, 1 = yes).

Age of the respondent was measured at all six times of measurement. Overall age ranges from 55 to 69 years ( $N=6,986$ ,  $M=65.1$ ,  $SD=5.0$ ). *Cohort* was indicated as 0 = 1992 and 1 = 2002. *Historic time* is indicated by the interval between baseline observation (1992 or 2002) and year of observation and ranges from 0 to 7.9 years ( $M=2.8$ ,  $SD=2.6$ ).

The *level of education* of the respondent was measured in numbers of years of completed education, and varied from 5 (less than primary school) to 18 (college or university). The *employment status* is coded as 0 = not employed or 1 = employed. Health status was indicated by the degree of *functional capacity* and measured with six questions about having difficulty performing the activities of daily living: Can you walk up and down stairs? Can you walk for five minutes outdoors without resting? Can you sit down in a chair and get up again? Can you get dressed and undressed? Can you use your own car or public transportation? Can you cut your own toenails? The five possible answers were: not at all, only with help, with a great deal of difficulty, with some difficulty, and without difficulty. The six items constituted hierarchically homogeneous scales at the six observations (Loevinger's  $H \geq 0.59$ ), which were reliably measured ( $r \geq 0.83$ ). The scales ranged from 6 (numerous problems) to 30 (no problems). For marital status we distinguished married people or people cohabiting with a partner; and never married, divorced and widowed people not living with a partner. The *size of the personal network* was assessed using the domain-contact method. With respect to seven role types, respondents were asked to identify people (other than their partner) whom they had frequent contact with and who were important to them (range 0–75) (Van Tilburg, 1998). For *involvement in religious groups* we used information on frequency of attending religious meetings, ranging from 1 = never attending

religious meetings to 5 = daily attendance of religious meetings.

## Procedure

Changes in variables were calculated by extracting the score at time  $T$  from the score at time  $T - 1$ . Change variables were calculated at each of the five follow-ups for functional capacity (range = -21 to 9.6), employment status (range = -1 to 1) and network size (range = -46 to 52). Change in marital status was calculated as a change in partner status (-1, 0, or 1). Differentiation between the onset of widowhood or divorce was not possible due to too small numbers in both categories. Losing a partner therefore indicates either widowhood, divorce or breaking up a non-marital relationship.

Descriptive statistics of all variables at baseline and changes between 1992–1998 and 2002–2008 are provided to examine the differences between both cohorts. To test the hypotheses, multilevel logistic regression analysis was applied, with observations nested within respondents. The regression models were analysed by means of MLN, a program for multilevel analysis (Rasbash and Woodhouse, 1995). Odd ratios (OR) are reported. Two models were examined. First, we examined whether one volunteered from older adults' age, time, and cohort controlled for gender. In addition, two- and three-way interactions between age, time and cohort were examined. Two interaction effects appeared significant: age  $\times$  time and age  $\times$  cohort. In the second model the predictor variables were added: educational level, church attendance, employment, functional capacity, network size, and marital status, as well as the change scores. To indicate effect sizes and addressing non-linear effects we present point-estimates for the years 1992–1998 and 2002–2008 for three age groups: 55–59, 60–64 and 65–69 in Figure 1.

## Results

### Cohort differences

To obtain more insight in volunteering and (changes in) the predictors during the period of observation, descriptive statistics are provided for the 1992–1998 and 2002–2008 years of observation. Table 1 shows that the proportion of volunteering is significantly higher among the recent cohort than among the early cohort (45 per cent versus 38 per cent). Regarding the predictor variables, the 2002 cohort has more years of education but attends church less often than the



**Table 1** Descriptive statistics of volunteering and predictor variables in two cohorts (means and percentages)

	1992–1998	2002–2008	<i>F</i>	<i>p</i>
<i>Baseline observation</i>	<i>N</i> = 1,357	<i>N</i> = 1,388		
Volunteering (no–yes)	38%	45%	15.9	0.000
Education level attained (5–18 years)	9.3	10.2	47.4	0.000
Frequency Church attendance (1–5)	2.6	2.2	31.9	0.000
Functional capacity (6–30)	28.9	28.6	10.9	0.001
Employment (no–yes)	21%	30%	36.4	0.000
Network size (0–75)	14.9	15.6	3.6	0.056
Marital status				0.006
Never married	5%	5%		
Married or cohabitating with partner	77%	79%		
Divorced	5%	8%		
Widowed	12%	9%		
<i>Average change after baseline</i>	<i>N</i> = 2,084	<i>N</i> = 2,157		
Functional capacity (–21 to 12)	–0.7	–0.5	8.1	0.005
Employment (–1, 0)	–13%	–11%	3.1	0.079
Network size (–46 to 52)	0.4	1.6	20.2	0.000
Having partner (–1, 0, 1)	–6%	–3%	17.3	0.000

Note. *F*-test by means of analysis of variance. Means adjusted for sex, age and (for change scores) years of follow-up. For marital status:  $\chi^2 = 12.3$ ,  $P = 0.006$ .

1992 cohort. The 2002 cohort has a lower functional capacity, yet reported a smaller decline in functional capacity over the years than the 1992 cohort. The proportion of employed respondents in 2002 is higher than in 1992 (30 per cent versus 21 per cent). The 2002 cohort reported a somewhat larger network size on average which however did not differ significantly from the 1992 cohort. The 2002 cohort had a higher increase in network size over the years compared to the 1992 cohort. Compared to the 1992 cohort the 2002 cohort is more often divorced, less often widowed, more often married or cohabiting and loses less often their partner. These descriptive results suggest that the individual resources and structural conditions facilitate volunteering in 2002–2008, as people are more often higher educated, employed and married, have a larger network and a larger increase in network size over the years, have a smaller decline in functional capacity and lose their partner relationship less often. The trends that might affect volunteering negatively are the lower religious involvement and the lower functional capacity in 2002 compared to 1992.

### Volunteering by age, cohort, and time

The first hypothesis (H1a) concerned the effects of age and aging, and predicted that the six-year change in volunteering would differ for younger and the older

age groups. From the first model examined in the multilevel analyses (Table 2, Model 1), we conclude that there is a direct negative effect of age ( $OR = 0.98$ ), indicating that younger persons are more likely to volunteer than older persons. The direct effect of time is not statistically significant, but the interaction effect between age and time is small yet significant at 1 per cent level ( $OR = 0.99$ ). This indicates that aging effects differ for younger and older ages which confirms our first hypothesis. Point estimates calculated for the three different age groups reveal that 6 years' time volunteering increases for the youngest age group (55–59 years old at baseline), remains fairly stable for those aged 60–64 years at baseline and decreases for the persons aged 65–69 years at baseline (calculations not shown).

The second model in the logistic regression analysis included direct and interaction effects of cohort with age and time. Model 2 in Table 2 shows that the 2002 cohort is more likely to volunteer than the 1992 cohort ( $OR = 1.36$ ), which corroborates our hypothesis 2a. The interaction between cohort and baseline age is also significant ( $OR = 1.04$ ), suggesting that cohort differences in volunteering differ for younger and older respondents. Calculating point estimates (not shown) indicated that cohort differences in volunteering were the largest for persons aged 64–69 years at baseline, and the smallest for persons aged 55–59 years at baseline. In contrast to what we expected in

**Table 2** Multilevel logistic regression of volunteering between 1992–1998 and 2002–2008 on age, time and cohort, and individual variables (*N* respondents = 2,745; *N* observations = 6,986)

	Model 1				Model 2				Model 3						
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>OR</i>	Wald	<i>B</i>	<i>SE</i>	<i>B</i>	<i>OR</i>	Wald	<i>B</i>	<i>SE</i>	<i>B</i>	<i>OR</i>	Wald
Constant	−0.12	0.05	0.89	5.0*		−0.26	0.06	0.77	18.0***		−4.21	0.44	0.01	91.2***	
Female	−0.41	0.07	0.66	31.6***		−0.42	0.07	0.66	32.2***		−0.47	0.08	0.62	33.5***	
Baseline age (55–69; centred)	−0.02	0.01	0.98	8.2**		−0.05	0.01	0.95	16.2***		−0.05	0.01	0.95	18.6***	
Time (0–7.9; centred)	0.01	0.01	1.01	1.5		0.00	0.01	1.00	0.0		0.00	0.02	1.00	0.0	
Baseline age × time	−0.01	0.00	0.99	7.4**		−0.01	0.00	0.99	9.5**		−0.01	0.00	0.99	7.6**	
Cohort (1 = 2002, 0 = 1992)						0.31	0.06	1.36	24.8***		0.42	0.07	1.51	37.4***	
Cohort × baseline age						0.04	0.02	1.04	4.0*		0.03	0.02	1.03	2.3	
Cohort × time						0.01	0.02	1.01	0.5		0.01	0.02	1.01	0.3	
Education (5–18)											0.09	0.01	1.10	59.4***	
Church attendance (1–5)											0.35	0.02	1.42	218.8***	
Functional capacity (6–30)											0.06	0.01	1.06	16.0***	
Employed (0, 1)											−0.17	0.10	0.84	2.8	
Network size (0–75)											0.03	0.00	1.03	52.0***	
Never married (ref. married)											−0.08	0.18	0.92	0.2	
Divorced (ref. married)											−0.16	0.16	0.85	1.0	
Widowed (ref. married)											0.13	0.13	1.14	1.0	
Change in functional capacity (−21 to 12)											0.08	0.02	1.08	18.0***	
End of being employed (−1, 0)											−0.14	0.13	0.87	1.1	
Change in network size (−46 to 52)											0.01	0.00	1.01	8.0**	
Change in partner status (−1, 1)											−0.13	0.16	0.87	0.7	
Nagelkerke’s <i>R</i> <sup>2</sup>	0.02					0.03					0.19				

\**P* < 0.05; \*\**P* < 0.01; \*\*\**P* < 0.001.

Note. Estimates derived from regression of volunteering between 1992–1998 and 2002–2008 on gender, age, time, and cohort, adjusted for all other predictor variables and change scores.

Hypothesis 3a, the interaction effect of cohort and time was not significant, suggesting that aging effects do not differ between both cohorts.

### Explaining age, time, and cohort effects on volunteering

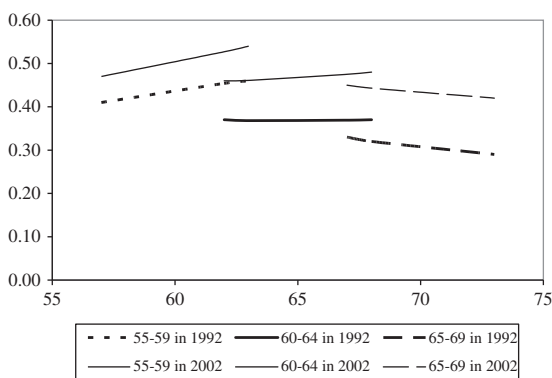
According to our three hypotheses (1b, 2b, and 3b), the effects of age, time and cohort should be explained by differences in (changes in) the predictor variables. These variables and their change scores, if applicable, are included in the Model 3 of Table 2. The direct effect of age (*OR* = 0.95) and the interaction effect of baseline age and time (*OR* = 0.99) are similar to the effects in Model 2, showing that the effects are not to be explained by differences in functional capacity, employment, network size, and marital status, and not by the changes in these variables over time. The cohort effect is increased (*OR* = 1.51) compared to Model 2, which shows that cohort differences in predictor variables do affect cohort differences in volunteering. Separate analyses (not shown) revealed that it is in particular the inclusion of religious involvement that increases the difference in volunteering among the

cohorts. In addition, the interaction effect age × cohort is not significant any more. This suggests that cohort differences exist in all age groups, when the cohort and age differences in the predictor variables are taken into account.

The explanatory value of the predictor variables is limited, but several of these predictors have significant direct effects on volunteering. In particular, frequent church attendance is a strong predictor of volunteering (*OR* = 1.42), in addition to having more years of education (*OR* = 1.10), better functional capacity (*OR* = 1.06) and a larger network size (*OR* = 1.03). An increase in functional capacity (*OR* = 1.08) and/or an increase in network size (*OR* = 1.01) over time also adds to the likelihood of volunteering. Remaining employed or retirement did not affect volunteering significantly, nor did marital status or losing a partner. The third model provides a better prediction of volunteering than the two previous models, as indicated by Nagelkerke's pseudo *R*<sup>2</sup>, stressing the importance of individual characteristics above the impact of age, time and cohort.

The effects of age, time, and cohort, adjusted for all (changes in) predictor variables, are illustrated in





**Figure 1** Six-year change in proportion volunteering of persons at age 55–59, 60–64, and 65–69 in two cohorts

Figure 1. The figure clearly shows that, regardless of age, the 2002 cohort is volunteering more often than the 1992 cohort, and that the age-specific pattern of increase and decline in volunteering over time is similar in both cohorts.

## Conclusions and discussion

Our study aimed to disentangle the effects of age, aging and cohort on volunteering in early old age. The LASA data allowed cohort-sequential analyses that are needed to examine to what degree changes in volunteering are comparable among young olds in two different decades: 1992–1998 and in 2002–2008. The analyses were conducted taken into account age and cohort differences in important predictors of volunteering, viz. education, religious involvement, health, employment, network size, and marital status, and the changes in these predictors over time. Three conclusions can be drawn: first, 6-year changes in volunteering differ by age group, showing an increase for those under 60 years of age and a decrease after the age of 65; second, the young old are more likely to volunteer in 2002–2008 than their age-peers in 1992–1998, across all age groups; and third, age-related decline is not postponed in the late cohort. These conclusions are elaborated on below.

Our findings suggest a curvilinear effect of age on volunteering, which corroborates with the findings of cross-sectional and longitudinal studies including people aged between 55 and 70 years (e.g. Verbrugge *et al.* 1995; Ajrouch *et al.*, 2007; Cornwell *et al.*, 2008). The increase in volunteering is most notable among the 55- to 59-year-olds in both cohorts, but there is also a slight increase visible among the 60- to

64-year-olds in the 2002 cohort (illustrated in Figure 1). These findings reflect the potential productive capacities of young old people in our society. Apparently, early old age is a phase in the life course that allows people to spend more time and energy on societal engagement such as volunteering activities. Why the curvilinear increase in volunteering is observed, is less clear from our study, as the effects of age and the interaction of age and time were not reduced after inclusion in the regression model of changes in employment, health, network size, and marital status. Possible explanations are considering other types of life events, as moving, illness of the spouse or involvement in grandparenthood, which all impact the personal resources and structural conditions of the young old. Another option is to consider dispositional factors, although norms and values regarding social engagement slightly change with age. Motives for volunteering are to a certain degree age-related, yet the age differences are the largest between late life and early adulthood (Okun and Schulz, 2003). Our findings did reveal that, regardless of age and cohort, a change in functional capacity and network size both directly and positively affect volunteering. Given a relatively healthy sample, the effect of health or a change in health may even be larger in the general older population. We conclude that being young old facilitates volunteering until the age of 65 years, or until health or the ability to maintain network relationships decline.

The second conclusion of the study is that volunteering increased in one decade. At all ages, one is more likely to volunteer in 2002 than in 1992, which supports the upward trend in volunteering also noted by Einolf (2009) and Rotolo and Wilson (2004). These cohort differences were only in part explained by the cohort differences in our predictor variables, so other explanations need to be considered. Our data did not capture the reflections of generational changes, such as stronger normative values and altruistic values among the oldest age groups (Bekkers and Ruiter, 2009). It is in particular this cultural ‘civiness’ by which Putnam explained why older generations are more socially engaged than the younger generations, despite their structural disadvantages (Putnam, 2000; Rotolo and Wilson, 2004). In addition to the missed dispositional factors, our data did not quantify societal developments that may be at stake here. In the introduction we suggested that a more positive view on aging in general may have led to larger numbers of socially engaged older adults, in particular among the young old. Our data showed that this positive effect applied to all ages under study, but without quantification of

the public view on aging, the impact of a positive view remains argumentative. Other societal developments of importance here may be the growing need for volunteers and increased efforts to recruit volunteers, as suggested by Einolf (2009), possibly due to the retreat of local and national public contributions for community organizations. More information on the altruistic values of individuals as well as on the 'demand side' of the community organizations is needed to increase our insight in the volunteering rate of future generations of older adults.

Our third conclusion is that age-related changes in volunteering are similar across both cohorts. As more young old people are involved in volunteering and important life events as retirement, health decline and widowhood are postponed among recent cohorts, we expected that the young olds in the recent cohort would continue their volunteering activities until higher age. This hypothesis (3) is refuted, as the interaction effects of age, time and cohort and of time and cohort were not significant. As such, there is little evidence that the timing of life events affects the likelihood of volunteering among these young olds. One explanation may be that it takes more time before a life event affects volunteering. Li (2007) showed that widowhood increased the likelihood of volunteering not immediately, but a few years after the death of the spouse. Moen (2004) argued that retirement is a process of adjusting working hours and the personal value of work, which may take place long before but also after mandatory retirement age. Our use of a simple dichotomy of being employed may not have captured the gradual shift in working hours that many young olds experienced, and which may have impacted their level of volunteering even before completely quitting the job. Taking account of the timing and meaning of life events in association with more detailed information on increasing and decreasing employment hours and volunteer activities (cf. Mutchler *et al.* 2003; Butricia *et al.*, 2009) will add to our understanding of volunteer dynamics in late life, but was beyond the scope of the present study.

It should be noted here that our indicator of volunteering is a simple dichotomy and does not inform us about the hours of volunteering. It is possible that older adults have indeed become more willing to volunteer in later life, but only on a short-term basis or for a few hours per week. There may be less commitment to long-term volunteer work. Information about the hours and frequency of volunteering is not available in our data-set, but long-term trend studies should be able to test the hypothesis that current generations of older adults are more likely to

volunteer than their predecessors, but for shorter periods or in less hours per week.

Our findings concerning cohort differences in predictor variables have large implications for the volunteering of future generations. The upward trends in education, employment and network size among the young old reflect growing opportunities to engage in social activities. These trends suggest that future generations of older adults may be even more involved in volunteering than current generations, assuming that positive developments outweigh the negative ones. The most positive development is the increasing level of education of the future young old, as those who were born in or after World-War II benefited largely from the expansion of educational systems in the second half of the past century. As education is such a strong predictor for volunteer work, the large-sized generation of 'babyboomers' are a huge reservoir of potentially productive young old (Einolf, 2009). Another positive development is the larger involvement of older people in social domains outside the family and the church, reflected in our findings and in other studies (e.g. Ajrouch *et al.*, 2007). Shifting social domains, from church to personal networks, does not necessarily harm volunteering, as a large and diversified personal network increases the likelihood that one is asked to volunteer. The positive association between network size and volunteering suggests that participation in the informal social domain is not only for recreational purpose. A third development of interest is that future cohorts will work until a higher age as many European societies nowadays discuss rising the mandatory retirement age. As full-time employment is associated with lower volunteering rates (Mutchler *et al.*, 2003), a higher retirement age will restrict the volunteer activities of the future young old *unless* their pre-retirement years are used to gradually decrease working hours and increase volunteer activities. The most important threat for volunteering rates of future cohorts forms the increase in health problems of the young old. Our data showed that the 2002 cohort reported a lower functional capacity at baseline than the 1992 cohort. This finding corroborates the negative trends in health of older generations reported by others (Ahacic *et al.*, 2003; Crimmings, 2004). As the current generations of young old women report more obesity and worse life styles regarding alcohol use and smoking (Hoogendijk *et al.*, 2008), health problems of future generations of older people may be increasing.

In addition to trends in individual characteristics of the young old, trends in societal arrangements for voluntary work also matter. The Dutch case shows that volunteering rates are high in welfare state regimes that

support community voluntary organizations and value a mix of public and private responsibilities. The current economic crisis in combination with a retreat of the welfare state (Gilbert, 2004), may have large implications for our civil society. Whenever economic developments will lead to cut-backs on governmental support for voluntary organizations and restrict community involvement, the future young old may chose to spend more time on informal care by assisting relatives and friends instead. From countries in the Mediterranean context, we know that a low level of public responsibilities contributes to lower levels of voluntary work and higher levels of informal care (Pichler and Wallece, 2007; Hank and Erlinghagen, 2009).

To conclude, when individual health problems are counterbalanced by a high educational level, a large network, strong altruistic norms and extensive support and opportunities for community voluntary work, (young) old people in future generations will remain an important potential source of volunteering and other forms of social engagement in our society and will have an important source for individual wellbeing.

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